

# Dynamic Programming and Optimal Control

## Results Programming Exercise 2

Nummer	Programming Exercise 2													# Probl corre	# Sim corre	total %	
	P1, Policy	P1, ValueIt	P1, Lin	P1, Sim	P2, PolicyIt	P2, ValueIt	P2, Lin	P2, Sim	P3, PolicyIt	P3, ValueIt	P3, Lin	P3, Sim					
06-920-599																	0
07-930-217																	0
08-924-920	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
09-907-411	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
06-923-015	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
06-916-985	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
06-910-178																	0
05-915-061	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
03-918-604																	0
05-910-559	1	1	1	1	1	1	0	1	1	0	0	1	6	3	70		
02-804-011																	0
06-914-659	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-919-352	1	1	0	1	1	1	0	1	1	1	0	1	6	3	70		
03-908-571	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-912-522	1	1	1	1	1	1	0	1	1	1	0	1	7	3	80		
06-917-397	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
06-917-009	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-915-566	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
08-908-634	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
05-908-868	1	1	1	1	1	0	1	1	1	0	1	1	7	3	80		
03-908-035	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
03-910-486	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
01-916-899																	0
05-915-152	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
05-910-567	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
04-921-409	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
06-915-425	1	0	1	1	1	0	1	1	1	0	1	1	6	3	70		

08-906-307	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
05-915-350	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-914-734	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
09-934-886	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-907-894	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
08-938-714																0	
07-933-492																0	
06-914-956	1	1	1	1	1	0	1	1	1	0	1	1	1	7	3	80	
05-910-047	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
04-920-393																0	
05-919-816	1	1	1	1	1	1	0	1	1	1	0	1	1	7	3	80	
09-909-961	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
06-918-254	1	1	1	1	1	0	1	1	1	0	1	1	1	7	3	80	
05-925-680	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-919-840	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-907-431	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*
03-906-781	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-912-456	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
05-913-587	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
07-931-603																0	
06-916-340	0	1	1	1	0	1	1	1	0	1	1	1	1	6	3	56	*
06-914-998	0	1	1	1	0	1	1	1	0	1	1	1	1	6	3	56	*
08-902-496	1	1	1	1	1	1	0	0	1	1	0	1	1	7	2	70	
05-908-793																0	
09-935-123	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
09-931-676	1	1	1	1	1	1	0	1	1	0	0	1	1	6	3	70	
06-928-857	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
06-911-457																0	
05-908-629	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
09-934-399																0	
09-908-484	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
09-935-362	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	100	
09-935-164	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	80	*



06-908-883																	0
06-920-755	1	0	1	1	1	0	1	1	1	0	1	1	6	3			70
07-901-580																	0
05-906-896	1	1	1	1	1	1	1	1	1	1	1	1	9	3			80*
05-914-213	1	1	1	1	1	1	1	1	1	1	1	1	9	3			100
04-915-559																	0
05-925-599	1	1	1	1	1	1	0	0	1	1	0	1	7	2			70
04-906-830	1	1	1	1	1	1	1	1	1	1	1	1	9	3			100
05-915-954	1	1	1	1	1	1	1	1	1	1	1	1	9	3			80*
06-907-380	1	1	1	1	1	1	1	1	1	1	1	1	9	3			100
80-911-258																	0

### Remarks

Three problems (P1...P3) were used for evaluation, all generated by the given problem data generator.

P1 was similar to the given example problem data with  $N = M$ . For P2, we used  $N < M$  and, for P3,  $N > M$ .

Each problem was solved with Policy Iteration (PolicyIt), Value Iteration (ValueIt), and the Linear Programming (Lin) and finally simulated.

For Value Iteration, our solution (in the predefined format) was used as input to your function.

We tested your simulation by averaging over 10'000 runs using our optimal policy (in the predefined format) as input and evaluating if the average is close to the actual optimal cost (within +/- 25% of the standard deviation).

### Grading

You get 10% for each correct solution; that is, 30% if each algorithm works for a given problem. In total, a maximum 90%.

If the simulation runs and gives correct results for all three problems, you get additional 10%.

\* Students (marked with a star) whose initial submission did not yield the correct result for all problems resubmitted their code and could get up to 80% for a fully correct second submission.